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ABSTRACT

This supplement to the active learning modules summarizes some of the shared experience and wisdom on active pedagogy of module testers, pedagogy experts, and teachers. Among the issues addressed in the supplement are: hints to facilitate teaching an active learning module; suggestions for instructors who are new to a particular location and who might find it difficult to teach about or use examples from a region with which they are not familiar; and suggestions on student assessment (i.e., what to look for in students' performances and responses.) Contains 13 suggestions for further reading. (BT)



DEVELOPING ACTIVE
LEARNING MODULES ON THE
HUMAN DIMENSIONS OF GLOBAL CHANGE

Notes on Active Pedagogy

A Supplement to the Active Learning Modules
Produced by the AAG/CCG2

Compiled and written

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Developing Active Learning Modules on the Human Dimensions of Global Change
"Notes on Active Pedagogy: A Supplement to the Active Learning Modules"

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Notes on Active Pedagogy

This supplement to the active learning modules summarizes some of the generously shared experience and wisdom on active pedagogy of module testers, pedagogy experts, and wonderful teachers to those new to active pedagogy. Among the issues we address are: hints to facilitate teaching an active learning module; suggestions for instructors who are new to a particular location and who might find it difficult to teach about or use examples from a region with which they are not familiar; and suggestions on student assessment, i.e., what to look for in students' performance and responses. We begin with an experiential look at active pedagogy.

Active Pedagogy: This Is What You're In For!

Active pedagogy as promoted here is a student-centered approach: it involves students actively in their own learning, assures their involvement with the material (i.e., their world), teaches skills for problem-solving rather than instilling information for occasional regurgitation, and prepares students to be engaged citizens and competent participants in society. Active pedagogy is all of this -- and more! It is also profoundly about teachers.

Throughout the course of this project, many people practiced active pedagogy in their classrooms. For some it was what they've always done but maybe never thought about; for others it was an entirely new philosophy and practice of teaching. Without exception, instructors found the approach deeply satisfying and at the same time personally challenging. These few paragraphs summarize some of the experiences of our most staunch promoters of active pedagogy -- those who have practiced it.

Good-bye to teaching -- Hello to learning!

Active pedagogy is about creating learning environments. It's not about how to quiet students down enough so they can hear you lecture and at the same time keep them entertained enough as you spice up "dry" scientific information with jokes and stories; rather, it's about involving them. Involving does not necessarily mean that all learning occurs via action and busy-ness; involving means connecting students to the subject matter they learn about. Activities are simply a means to help that connecting process along more effectively. As the testing phase of these modules has shown, however, students could do certain activities ad nauseam and not learn a thing!

Become a reflective learner!

In order to create learning environments, instructors have said repeatedly that they needed to look back at how *they* learned a specific skill or matter. Clearly, not everyone shares the same learning style, but between one's own way of learning and the experience gained in

teaching, instructors have available to them a large repertoire of information about barriers and venues, i.e., what facilitates and what is in the way of learning. Aspects to reflect on here include:

- How was a subject matter introduced to me? What caught my attention? Was there something that scared me away?
- How do I best take in information? How do I process information internally? And how do I prefer to present what I know? (Visually -- I need to see/read information; auditorially -- I need to hear information/talk about it; kinesthetically -- I need to just do it/act on it/do something, in the meantime something "clicks" and I get it.)
- Is it easier for me to understand something when someone walks me through it in a linear fashion, step by step, or do I need an overview of the whole thing first, before building more detailed information into it (nesting information into the outline)?
- Do I learn best alone or with others (or do I like to do certain things alone, and other things in a group)?
- When do I get confused or lost? What kind of structure do I need?
- When do I get bored? When do I have fun?
- When do I feel satisfied with the work I did on a problem? When do I feel I "got it?"

Respect different learning styles!

An active pedagogy with the goal of involving students needs not only to acknowledge that people have different ways of learning; it can and should make use of this fact. As the instructor becomes more aware of her or his own learning preferences, s/he will almost automatically understand that every student has preferences and limits, too. In order to reach as many students in your class as possible, try out activities that use different learning styles and observe what works. For example, not every student will enjoy computer-based activities although your institution's facilities may allow their repeated use. Choosing among a variety of activities is thus not only a logistical issue, but also one of offering and accepting different ways of learning.

Active pedagogy takes time and saves time!

Those who tested these modules in their classrooms mentioned that preparing an "active learning" class takes more time than preparing a lecture. It has to because a lecture is most often a monologue, while active learning is a dialogue or a multilogue (between student and teacher, student and student, student and subject matter, and between student and her/himself). Much effort has been made by module authors and contributors to ease this class preparation as much as possible. On the other hand, engaged, involved learners are much better and quicker learners than those who are left behind because they could not connect with the material and consequently "turned off" their receptors.

Involved, outgoing learning requires some trust!

Some module testers reported that their students weren't ready on the first day to do role plays or speak up in class discussions. As in any constructive, mutual relationship, instructors need to build rapport with their students before they can expect students to

come forth with their creativity and curiosity. Here are some suggestions on how to build rapport:

- instructors could start with volunteers (or assign students) to present a summary of a short article;
- in large classes, start with small-group or paired discussions among students on a given subject;
- demonstrate genuine interest in students' opinions and viewpoints by asking for their input and affirming their contributions;
- make an extra effort to bring as many students as possible into a discussion (it's so easy to go with the few that will always speak up, no matter what...);

Additional hints for how to involve and engage students are presented in the section on *Strategies to Inspire High-Involvement Lessons* below.

Active pedagogy is hard!

To be an enabler of learning appears to ask a number of qualities of a person, some of which come with less ease to us than others: **willingness to self-reflect** and reflect on the progress made in class; **openness and flexibility** to change one's way of "teaching" as it becomes apparent what works and what doesn't for a set of students; **ability to let go** of some control over exactly how students process a task into a solution; at the same time, determination to repeat and **make clear certain learning goals and expectations**; and a **welcoming and explicit appreciation** for your own and students' diverse efforts at learning and knowing, implying an orientation toward process and outcome.

Active pedagogy is actually a lot of fun!

Despite, or maybe even because of, active pedagogy's challenges, the approach is much more fun than more traditional ones such as lecturing. It is more **rewarding** because it has proven to be more lasting and effective. It is more **involving**: if you present the same material in the same way for years and years, you, the instructor, can become bored, too. It **appreciates and invites individuality and diversity**: no class is the same as the last one, no project is like that of other students. It is more **personal** even if your class is large. In smaller classes you are more likely to receive students' feedback directly, but in a large class, when you reach a student personally by **engaging her/him** and you never know about it, the course will make a lasting imprint on the student; active learning can truly make a difference in students' lives.

The following sections discuss some of the specifics of active pedagogy, including the choice of activities, concrete strategies of how to enable learning, how to involve students and keep them involved, how and when to use different learning modes (alone, in groups, writing, discussion, etc.), and so on.

Hints to Facilitate Teaching an Active Learning Module¹

Choosing an Activity

As you teach, adapt, and evaluate each activity in this module, you may want to keep three simple questions in mind:

- Is it **active**?
- Is it **learning**? and
- Is it on the **human dimensions of global change**?

In addition, we suggest the following checklist, which contains hints as to what makes a good learning activity.

Goal Relevance

Does the activity accomplish worthwhile curricular goals? Does it focus on important primary objectives and not just constitute "busy work"?

Appropriate Level of Difficulty

Does the activity fall within students' range of ability? Does it challenge the students and help them learn, but not confuse or frustrate them?

Feasibility

Is the activity feasible given the constraints under which learning usually takes place, such as space, equipment, time, and types of students?

Cost Effectiveness

Do the (geography) learning benefits justify the anticipated costs for both students and instructor in time and effort?

Multiple Goals

Does the activity accomplish several goals? Does it ask students to use skills of critical and creative thinking, inquiry, problem solving, and decision making in applying knowledge? Does it involve students in activities connected with real life?

Motivational and Affective Value

Is the activity enjoyable, meaningful, and worthwhile? Does it motivate students to reassess their behavior and activities and to alter it?

¹Thanks to Sarah Bednarz, Texas A & M University, who contributed most of the information in this section.

Topical Currency

Does the activity focus on powerful ideas that are central to the course being taught?
Does it represent new and progressive approaches to the concepts of geography?

Whole-Task Completion

Do the activities encompass whole tasks, do they hold together as a set, and build toward major goals, not simply give students opportunities to practice a part of an idea or skill?

Higher-Order Thinking

Does the activity challenge students to interpret, analyze, and use information in response to a question or a problem?

Adaptability

Can the activity be adapted to students' individual differences, interests, and abilities?
Can it be adapted to a variety of teaching and learning contexts?

Unless the course you are teaching has a specialized theme or goal that predetermines specific resources, activities and skills, you may want to consider the following aspects of variety and balance in putting together your course:

Variety and Balance of Resources

What media are you employing? Plan ahead to vary the resources used over the course of the semester: lecture, text, journal articles, newspaper clippings, map and graphical material, fictional material, video, film, slides, computer-based resources, etc.

Variety and Balance of Activities

What do you do in your classroom? What do students do at home? Alter the types of activities in class and outside. Students should work alone and in groups. Some activities are longer, others shorter. Discussions in groups or panels, brainstorming, role play, team work to produce a script, an exhibit, conducting interviews, designing a brochure or a poster, writing essays or op-eds, etc.

Variety and Balance of Skills

At the end of the year, what do you want your students to be able to do? Should they be able to write solid papers, prepare graphics, read maps, interpret statistical data, think critically, communicate effectively, work in teams, be critical and aware citizens, know the basic approaches to a problem, or any combination of the above and more?

Strategies to Inspire High-Involvement Lessons²

The following suggestions of active learning strategies were distributed to participants of the Summer 1995 Workshop at Clark University. They were derived originally and adapted from Harmin, Merrill. 1994. *Inspiring active learning*. Alexandria, VA: ASCD. To obtain a copy of this publication, call the Association for Supervision and Curriculum Development at (703) 549-9110 or fax (703) 549-3891.

Write-Share-Learn

Pose a question to the class that will make students think, e.g., through questions like "Can you think of reasons why...? What are some factors that might explain ...? Do you have any explanation for ...? Why would you say ...? Can you identify some of the main reasons why ...? See if you can figure out why ...?"

Ask students to respond to these questions by first taking private notes. When you see that a few students have finished, announce, "Just finish the thought you are now writing." And then tell students you would like them to share their ideas. Don't let the discussion get too long. Zip along!

You may wish to ask students to pair up with someone nearby and share their thoughts or notes. Without waiting for students to be quiet and ready -- you want activity to catch students up; waiting is not active -- ask, "Who will share something that you and your partner talked about?" Close the discussion after a while by stating, "Here are some thoughts I have..." or, "It sounds like you all agree on ..., and that is a major point!" etc. Move to another strategy when you sense that the attention level is dropping.

Conclude the lesson by saying, "Please think back over what we have done so far. We began with the question ... and did some thinking and sharing in which we found See if you can write down two or three things that you found particularly interesting, or that you want to take away from this. You may want to start your sentences with:

- I learned...
- I was surprised...
- I'm beginning to wonder...
- I feel...
- I discovered (or rediscovered)...
- I now realize that...
- I would someday like to...

² Again, we gratefully acknowledge Sarah Bednarz for bringing our attention to these useful strategies. She summarized the original source and adapted it for every-day use in the classroom.

- I cannot agree with...
- I would like to find out more about...
- I reevaluated my assumptions about...
- I was proud of the way...
- I conclude...
- I better appreciate now...

These are called **outcome sentences**. Ask students to keep these outcome sentences in a learning log or use them as material for a student portfolio (see the section on *Assessment* below) that could be used to summarize and illustrate a student's accomplishments during the course. Do not expect all students to get the same learning from a lesson. The aim of the strategy is to get students to digest information and create personal meaning for themselves.

Cushion - Underexplain - Learn

Start a new unit or course by cushioning the whole class (1-2 minutes). Reduce student anxiety by saying, "We will talk about something new today. Do not assume you already have to know everything, or understand it right away. We will review the material several times and help each other out, so relax and let's just see what happens."

When you introduce a new concept or principle, present it first for about 5-15 minutes. Continue with brief, cursory explanation. Then say, "Now get together in pairs and help each other figure out how to do this. If you get stuck, ask another pair for help."

Conclude by asking the class, "How did you do? What did you figure out? What questions do you still have?"

Lecture - Share - Learn

If lecturing (which is not active for students) is unavoidable, create active breaks in the lecture. Lecture until you come to a natural break in the material. Then say, "Let's take a minute to write down the key ideas you have heard so far or any questions you might have." Students write for 1-2 minutes. Keep the pace brisk. When a few students have finished, say, "One more moment, please." Then continue the lecture to the next break point and repeat the procedure.

At the end, ask students to form pairs and to share a summary of what they had heard, what they think were important points and what questions occurred to them. You may finally end the lesson by saying, "Let me summarize what I would like you to understand, what I see as the main points..."

Another option is to have each student share their main point or thought with the rest of

the class. Start at one end of the classroom (next time start at a different end!), and go around the room. You may want to give students the option of saying "I pass!"

Yet another option is to ask students to respond nonverbally by asking questions like, "How many of you...?" Students raise their hands for agreeing or point thumbs down for disagreeing. End the sequence with questions like, "Do you still have any questions you would like to have cleared up?" or "Do you feel ready to move on?"

Keeping Students on the Ball

Keep a classroom pace fast enough to keep all students actively involved. Return to topics from time to time rather than aiming at mastery at any one time, so learning is reinforced over time and the risk of losing student involvement and interest is minimized. Explain to students (and practice it!) that the focus of your class is on learning, not on grading.

Be creative! Try out new things and add variety. And most of all: let your students be creative. Allow a wide range of inputs. Validate their ideas. The trickiest part of getting students involved is letting go of the reins. Give up some control and let students take some. Allow the class to "make the class" they want.

At the same time, make your expectations known to the students. Don't be afraid to set high expectations. When students are taken seriously, their diverse talents and ways of learning are appreciated, their ideas validated, and their efforts recognized, and the content of learning is meaningful, students *will* rise to the challenge and excel in it. State the objectives of a unit at the beginning, and make sure students know what they are expected to hand in at the end. Give few examples of how to creatively fulfill the expectations, then let go.

Repeated encouragement to have students get actively involved and making them do activities will eventually lead to self-propelled participation and engagement with the material. The more students are made to feel as if they have to complete a "real world" task, the more responsible, self-motivated, and resourceful they will become. (See the section on goals of education for successful participation in the modern world below.)

The last two paragraphs lead to another important aspect of how to inspire learning and keep students on the ball: reinforce the successes of students' learning rather than focussing on their mishaps. All learning occurs through reinforcement. Become clear about what you reinforce!

Doing It Together

Team work and cooperation are essential skills in our times: they increase the chances of success of a project and nurture a sense of self-worth, fulfillment, and belonging at the same time. Note that cooperative learning and working is more than just putting two or more people together at a table. It means structuring the group experience such that it is truly cooperative and mutually beneficial. The following five elements are considered essential to cooperative learning (see Johnson, David W., Roger T. Johnson, and Karl A. Smith. 1991. *Active learning: Cooperation in the college classroom*. For a copy of this publication write to or call Interaction Book Company, 7208 Carolina Dr., Edina, MN 55435, (612) 831-9500. Also of interest is a recent article in a journal on higher education: Bruffee, Kenneth A. 1995. Sharing our toys: Cooperative learning vs. collaborative learning. *Change* 27, 1: 12-18.)

Positive Interdependence

Students perceive that they need each other in order to complete the group's task. Instructors may promote interdependence through setting mutual goals (learn and make sure all group members learn), joint rewards (if all achieve above a set criteria, all will receive bonus points), shared resources (each one has part of the required resources or all share just one copy) and assigned roles (summarizer, elaborator, reporter, process observer, etc.).

Face-To-Face Promotive Interaction

Students help each other, share and encourage each others efforts to learn. They explain, discuss, and teach what they know to classmates.

Individual Accountability

Each student's performance is frequently (and randomly) assessed and the results are given to the group and the individual.

Interpersonal and Small Group Skills

Teachers need to teach collaborative skills like any other skill. Without such skills, groups cannot function effectively. The skills include leadership, decision making, trust building, communication, and conflict management.

Group Processing

Groups need time to assess how well they are achieving their goals and maintaining effective working relationships with each other. Assessment can be structured by asking groups to determine together the three things that helped the group most to work together, and the three things that they need to improve on to make the group more successful.

Writing-to-Learn: Suggestions for Small Group Discussions³

The following list suggests ways to use quick, informal writing in a small group discussion class. The purpose of such exercises is to further the dialogue between teachers and students and among students themselves. By using students' own expressive language in the exercises, students tap more easily into their existing knowledge, search it, stimulate their thinking and open themselves up to new information and knowledge (see Slater, Francis. 1993. *Learning through geography*. Pathways in Geography, No.7, esp. pp.165-172. National Council for Geographic Education: Indiana, PA.)

A quick bit of writing can get the discussion going, highlight questions that students may have, re-establish the focus of a previous class meeting, and pull a conversation together. Although this kind of writing is not graded, it might be collected as information for you about how your class is going or as a part of the student's participation grade.

Class minutes

To teach students how to make sense of class discussions and to focus on main ideas or questions, you might appoint one student each time to take minutes, type those up for next time, or use them as the basis for initiating class discussion. This helps students to see how group discussions work and to pay more attention not only to what gets said, but what doesn't.

Informal writing

To start off discussion, or to jump start it when it gets stuck, you might ask students to write quickly, without editing, on a question or prompt:

- What questions do you have about today's readings?
- What surprised you or interested you the most in yesterday's lecture?
- In what ways did Professor X or Professor Y seem to disagree?
- What is the key idea in this reading?
- What reading did you like best and why?

You might then have students read these aloud, or at least summarize them, as a basis for the days' discussion. Or you might ask students to read each other's comments and write some kind of response.

Imaginary dialogue

To deepen students' understanding of a particular idea, you might ask them to imagine how one author might respond to another: what would X say to Y if he had read the article on this issue? Again, this would be a way to get students thinking more critically.

³ Francis Slater, University of London (UK), and Sarah Bednarz contributed jointly to this section.

Passing notes

Drawing upon the forbidden, you might ask students to jot down an answer to a question like "what's difficult or what's easy about the material today?" and pass them around the room. It helps students see themselves within the context of other students.

Definition

As students will be confronting a lot of new vocabulary in the course, you might start off a discussion with their defining of key concepts. This also helps them keep track of the important concepts in articles as they work their way through the readings.

Instant suggestion box

At the end of a discussion, you might ask students to write down anonymously suggestions for the next class discussion: They might start their comments off by saying,

- I still don't understand...
- The most interesting thing I learned in class today...
- I know ... now, but I'm still confused about ...
- Next time I wish that ...

Anonymous self-assessment

This helps students to take responsibility for their own learning and helps you see what is working well (or not) in your class. Students might answer the following questions:

- What is helping you learn in this course?
- What is hindering it?
- What should you do differently?
- What should I do differently?

Quizlet

Test out how well students are reading the course materials with a quick question or two.

Class summaries

You might assign individuals or pairs to prepare a brief summary or response to the readings assigned for the day as a way to initiate class discussion.

Class glossary of key words and concepts

You might assign individuals or pairs to write up definitions of key words or concepts, discuss them in class, revise as needed, and keep an ongoing list or glossary of those terms to pass back to students periodically throughout the semester.

The Aim of Writing Assignments: Learning to Deliberate⁴

Writing is often used across the curriculum to engage students more actively and more critically in course readings, lectures, and discussions. Rather than merely taking notes or highlighting passages in the course readings, students are asked to put that knowledge to work by doing some sort of ongoing writing assignment. Whether it is writing journals, research papers, essays, or informal working notes, they are asked to take up the ideas, key information, and terms of the course in order to extend, assess, qualify, or critique them.

Two principle types of writing assignments -- the reading response and the deliberative essay -- are proposed here. They are designed to teach students the process of reading and writing in preparation for thoughtful discussion in and outside the classroom.

The Reading Response

The response paper takes up the claims and arguments of the course readings. Thus the papers are designed to teach students to read papers for the main arguments and ideas, the key information, and possible critiques. Students might be asked to summarize main points in one article or to compare and contrast the main points of two articles. Or you might throw out an open-ended question, such as, what was new to you in these readings? What surprised you -- and why? What is most significant to you about these ideas -- and why?

These papers are meant to be informal thinking aloud papers to help students understand the readings. They call for thoughtful and critical engagement with key ideas or information in the readings. While they give some indication of how well students understand the readings and follow the discussions, they are not "tests" meant to show that students have done the readings.

The Deliberative Essay

The aim of the deliberative essay, a longer paper at the end of a section, is to teach students how to compose an argument or develop a position, how to thoughtfully interpret a choice or a situation, how to persuade readers that an idea or position is valid.

Students should draw specifically from course readings and lectures (with citations) as they present their argument or thoughts or yes/no decision on the topic. Writing an essay -- with its introduction, three or four main points, and conclusion (so what?) -- will be more familiar to most students than the less formal organization of the response paper.

⁴ We gratefully acknowledge the original authorship of this section of Lorraine Dowler and Molly Voorheis, Syracuse University Maxwell School of Citizenship and Public Affairs, and the university's Writing Program, respectively. The material was developed for a writing-intensive, team-taught undergraduate course entitled "The Global Community and Critical Issues for the United States."

Instructors may use the heuristic worksheet (see below) as a pre-writing assignment to help focus student papers and to give useful advice before the paper is fully drafted.

Responding to Student Writing

The aim of responding to student writing is (1) to teach students how to make their claims or arguments more effectively and (2) to determine a grade for the paper. If the aim of the writing is to teach students to be better participants in discussions, comments on student papers should be conversational, directed to the students' ideas and content, as if you were saying to the student writer, "Here's what works well in your paper, here is what doesn't, and here is what might work better." As you read a paper, ask yourself, what would make this a better paper? Then let the student know -- in text-specific ways.

Comments should also be in full phrases or sentences, not checks on the margins of the paper or vague remarks like "good" or "not dev." If you write specific comments on students' papers that are directed at the content of the paper -- at the specific ways a student is or is not making the case -- then students have a clearer or more specific sense of what they are doing well or not. They can learn from those comments. Initially this takes some thought and time; as the semester goes on and as students understand more specifically what is expected and as you understand more concretely the strengths and weaknesses of your student writers, responding takes less and less time. You and your students develop a shared vocabulary.

Responding is not rewriting; it is not useful for instructors to comment so extensively on papers that the paper no longer belongs to the student. Perhaps a comment per paragraph makes sense, even if it is a short one like, "Your point here would be better if you connected it with reading X" or, "There are too many big ideas in this paragraph."

The following statements contain useful criteria to help instructors and students understand what a "good" response paper or essay might be. Different instructors emphasize different things in relation to the readings: mastery of key concepts, student voice or experience, open-ended speculation, pro/con argumentation, etc. So the word "claim" is used here to cover roughly all those possibilities -- to refer basically to main points.

- A good response paper identifies (and cites) specific key claims from the readings and then summarizes, extends, or critiques those claims thoughtfully.
- A good essay has a thoughtful thesis, position or topic; supports that thesis or develops that position or explores that topic with three or four main claims; anticipates questions or challenges from readers; reaches some kind of conclusion; and connects its ideas (with citation) with course readings and lectures.

While we are encouraging you to respond to student writing primarily at the level of content, we recommend that you mark misspellings, punctuation errors, problems with usage of

terms, or grammatical errors as you read through the paper. If those surface errors seem to be the result of carelessness or haste, you might consider saying so and indicating that you won't read papers with so many careless errors again. If those surface errors seem to be more serious, you might consider sending those students to writing workshops available at your institution or conferencing with them one-on-one early on in the semester.

Sometimes asking students to do a peer review of a paper on the day that it is due will help correct some of the errors. Ask students to exchange papers and read each other's for surface errors. Note that over time as students have more experience with the writing assignments, know what to expect from their teachers, anticipate that their writing and ideas will be taken seriously, and their thinking improves, surface errors decrease without any formal instruction.

The comments listed below are examples you might use in responding to student writing. See also the criteria sheets enclosed below which you might want to try. Writing teachers have used these at various times, but others prefer more open-ended formats.

General Criteria and Strategies for Marginal Comments

Reading Response

- Does this paper identify specific key claims from the readings?
- Does this paper summarize, evaluate, or critique those claims in thoughtful ways?
- Does this paper cite sources appropriately? (Make sure students know your citation preference)

Essays

- Does the essay have a thoughtful thesis, position or topic?
- Does it support that thesis, develop that position or explore that topic with three or four main claims?
- Does it anticipate questions or challenges from readers?
- Does the essay reach some kind of conclusion?
- Does it connect its ideas (with appropriate citation) with course readings and lectures?

Heuristics for the Essay

Some instructors find it helpful to have students complete a heuristic or mapping of their essays before they draft them. These might also be used as a basis for class discussion, as part of the participation grade, or as a prompt in a one-on-one conference. The sample heuristic on the next page assumes that the writer is taking a yes/no stand on a critical choice.

Questions to Discuss With Your Students

Make sure students know what you expect of them. Make these expectations known before the first assignment, but go over them again as you hand back the corrected first assignment. Use (anonymous) examples to demonstrate what you mean. Discuss among other things the following issues with your students:

- how students use cultural commonplaces for authority
- how students under-use primary text
- how students often have too many claims for a paper
- how students have difficulty quoting material in their paper (just stick it in and build a paper around it ...)
- how student papers will be graded (e.g., consistency across sections?)

Grading Criteria for Response Papers and Deliberative Essays

Standard forms of grading criteria for response papers and deliberative essays are included below. If you find them helpful, you may replicate them to use as a structured aid in correcting and grading papers; they may also serve as a written record of the student's performance and progress over the course of the semester.

What is your thesis or position?

What are your major claims in support of that thesis?

1.

2.

3.

4.

What questions or counterclaims might readers offer (think of who your audience might be)?

1.

2.

How will you respond to those questions or counterclaims?

What two questions or problems do you have with this paper so far?

1.

2.

1. Does this paper identify specific key claims from the readings?

Yes No

Comments:

2. Does this paper summarize, evaluate, or critique those claims in thoughtful ways?

Yes No

Comments:

3. Does this paper cite sources appropriately (consistent with a specified referencing system)?

Yes No

Comments:

4. Suggestions for next time:

Grade:

1. Does this paper give evidence of an understanding of the readings?

Yes No

Comments:

2. Does this paper have a thoughtful main thesis or position or topic?

Yes No

Comments:

3. Does this paper support that thesis or develop that position or explore that topic by developing three or four major claims?

Yes No

Comments:

4. Does this paper make effective use of the course readings and lectures?

Yes No

Comments:

5. Does this paper have a conclusion (e.g., a final statement, a rhetorical question, a last word)?

Yes No

Comments:

6. Does this paper cite sources appropriately (consistent with a specified referencing system)?

Yes No

Comments:

7. Has this paper been edited for surface errors?

Yes No

Comments:

8. Comments/Suggestions for next time:

Grade:

Teaching a Controversial Issue

This section is adapted with permission from Slater, Frances. 1993. *Learning through geography*. Pathways in Geography, No. 7, p. 114 (after Stradler *et al.* 1984) and p. 148 (after McConnell *et al.* 1979). Indiana, PA: National Council for Geographic Education.

Four teaching approaches to controversial issues

Instructors may take different positions in teaching a controversial issue. Four basic positions are discussed below with their potential strengths and weaknesses. Consider the issue you will discuss in your class and choose the approach that seems most appropriate in the particular situation that you are in, and to reach the particular learning goals that you have set.

Procedural Neutrality -- In which the teacher adopts the role of an impartial chairperson of a discussion group.

Potential strengths

- Minimizes undue influence of teacher's own bias
- Gives everyone a chance to take part in free discussion
- Presents a good opportunity for students to exercise communication skills
- Works well if you have a lot of background materials
- Scope for open-ended discussion, i.e., the class may move on to consider issues and questions the teacher hasn't thought of

Potential weaknesses

- Students find it artificial
- Can damage the rapport between teacher and class if it doesn't work
- Depends on students being familiar with the method elsewhere in the school or it will take a long time to acclimatize them
- May only reinforce students' existing attitudes and prejudices
- Very difficult with the less able
- Neutral chair may not suit your personality

Stated Commitment -- In which the teacher always makes known his/her views during discussion.

Potential strengths

- Students will try to guess what the teacher thinks anyway. Stating your own position makes everything above board
- If students know where the teacher stands on the issue, they can discount his or her prejudices and biases

Potential weaknesses

- It can stifle classroom discussion, inhibiting students from arguing a line against that of the teacher
- It may encourage some students to argue strongly for something they don't believe in simply because it's different from the teacher

- It's better to state your preferences after discussion rather than before
- It should only be used if students' dissenting opinions are treated with respect
- Students often find it difficult to distinguish facts from values. It's even more difficult if the purveyor of facts and values is the same person
- It can be an excellent way of maintaining credibility with students since they do not expect us to be neutral teachers

Balanced Approach -- In which the teacher presents students with a wide range of alternative views.

Potential strengths

- Essential: one of the main functions of a humanities or social studies teacher is to show that issues are hardly ever black and white
- Necessary when the class is polarized on an issue
- Most useful when dealing with issues about which there is a great deal of conflicting information

Potential weaknesses

- Is a balanced range of opinions really possible?
- As a strategy it has limited use. It avoids the main point by conveying the impression that "truth" is a grey area that exists between two alternate sets of opinions
- Balance means different things to different people. The media's view of balance is not shared by many. Teaching is rarely value-free
- This approach can lead to teacher-directed lessons. As in media interviews, you are always interrupting to maintain the so-called balance.

Devil's Advocate Strategy -- In which the teacher consciously takes up the opposite position to the one expressed by students or in teaching materials.

Potential strengths

- Great fun, and can be very effective in stimulating the students to contribute to discussion
- Essential when faced by a group who all seem to share the same opinion
- Most classes seem to have a majority line. Then this strategy and parody, exaggeration, and role reversal are

Potential weaknesses

- You may run into all sorts of problems with this approach: students identifying you with the views you put forward as devil's advocate; parents worried about the instructor's alleged views, etc.
- It may reinforce students' prejudices
- Only to be used when discussion

- very useful
Often useable as a device to liven things up when the discussion is beginning to dry up.

dries up and there are still 25 minutes left.

Procedure for studying a controversial issue

The following steps with leading questions may guide you through teaching a controversial issue. You might view these steps as a procedural outline whereas the previous section stated positions you might take in walking through a controversial issue.

Becoming aware of and clarifying the issue

- What is going on here?
- What is the major issue, problem, or question?

Analyzing and expressing one's feelings

- Why did I choose this problem to work on?
- Have I made any assumptions about it?
- What are my attitudes? My bias?
- How do other people react to the problem?

Inquiring, carrying out research and reaching the best possible factual judgment

- What do I need to know? How do I find out about it?
- What knowledge or methods are useful to me?
- What have I found out about the problem?
- What are the implications of these facts?

Clarifying values and reaching a value judgment

- What values and beliefs do I hold that are relevant to the problem?
- What are the consequences of these in relation to the problem?
- When there is conflict between values, which values have priority?
- Why?

Synthesizing fact and value judgment and making a decision

- Do I have enough information to decide?
- If not, what do I do?
- What solution do I now propose?
- What courses of action are open to people wishing to bring about the solution?
- Should I become personally involved?
- If so, how, to what extent and why?

- What are some of the possible consequences of my involvement or non-involvement? For society? For myself?

Doing and evaluating

- What did I actually do?
- What were the consequences of this?
- Knowing what I know now, how would I act if the situation arose again?
- Why?

A Word on Math and Science Phobia

Math phobia, especially but not exclusively among female students, is unfortunately a common occurrence in college classrooms. At times this fear extends to all things "scientific," at times also to things computer-based. This fear is most likely not a spontaneous reaction to certain activities in this module; rather this fear is older, a **learned** reaction to math, science, and computers rooted in earlier unpleasant experiences with them. The bad news is that fears are difficult to replace with more positive attitudes toward a subject matter. This is especially the case in areas where the fear is bound up with self-esteem issues. The good news is that everything that is learned can be **unlearned** and eventually, with patience, be replaced with a different kind of knowledge and emotional content.

Testers of these active learning modules have repeatedly reported math phobia among their students. Often this fear has translated into a noncooperative, even spiteful attitude toward completing certain activities ("I don't do math!"). Here are several suggestions, also based on these instructors' experiences, for how to overcome, transcend, or get around math and science phobia:

Demystifying

It is not only useful but imperative to use common language in explaining to students what science does, what a formula represents, how a computer "thinks." For example, it may be useful to walk through a problem first without any math or scientific jargon at all, and then say that there is a different (more effective, quicker, more elegant...) way to look at this, or do this, and then remind students as you work through it again using math/scientific expressions that they already did this once and got it. You can point out to students that, for example, a mathematical equation is simply another way of writing a sentence.

Examples, examples, and yet more examples!

Remind students that they do math every day, confronting them with the fact that they already know how to do it (at least some basics!); when they count their change to get a soft drink (addition), when they calculate whether they can go to a concert after they sell

their books back at the end of the semester (percentage, subtraction, multiplication), when they generalize about things always happening along with something else (correlation) and so on. In this way you can build on what students already know, which is usually a necessary part of learning something new. Examples are also a great way to show students *your* excitement about a subject, something that may entirely "wrap them up" in the subject matter -- meanwhile they used math to solve that exciting problem...

Demonstrating usefulness

Learning of any skill is easier when students can see clearly what it's good for, and how it makes their lives easier rather than more difficult. This is another opportunity to bring in examples that are linked to students' lives.

Building trust

At the root of most fears, especially those linked to self-confidence and self-esteem issues, is a betrayal of trust -- trust in oneself and one's capabilities, trust in the goodness and fairness of the people surrounding a learner, and so on. Most likely, you are not the one who once betrayed that trust, but you are the one who is now confronted with a student who distrusts and fears that s/he could ever succeed at the feared task (again), that s/he is as good or intelligent as any other. An instructor's positive attitude toward students, her/his patience and consistent encouragement, a non-condescending way of talking about learning something that is hard (to some), and allowing enough time for the emotionally loaded skill acquisition -- all of these will go a long way toward (re-)establishing rapport with, and trust in, students to go beyond their resistances.

Persistence

One instructor reported that her teaching assistant was simply persistent in the face of math phobia. She explained, re-explained, walked students step-by-step through a math problem, and repeatedly encouraged students to "just do it." Eventually 97% of the class completed the problem successfully.

If You Don't Know Much About Your Region But Want to Teach About It

If you are new to your community or region, not yet knowledgeable about them, or simply do not feel that you know enough to teach about them or to include local examples in your courses, there are a number of ways to obtain the necessary information. Many of these are also information sources and strategies you can offer to your students as they begin to learn about the area in which they live.

Turn vice into virtue!

Most probably your students know a good deal about where they live, what is going on in

the neighborhood, city, and even the larger region -- it is in some sense their territory. Clearly, this is specialized knowledge, but a great starting point. You may state as one of the explicit or implicit goals of the course that **they teach you** about the area. This may occur through you asking them directly or through assigning activities that are meant to produce the desired information. Your role thus officially changes from the "knower" to the "knowledge seeker" (of course, this is what we all are at all times, but in a classroom the opposite attitude can prevail), while the students become the "knowledge source." Your guidance consequently occurs at a more abstract or general level, seeking to point to generalities while your students provide the specific examples.

Generally, this strategy is empowering for the students and effective as a learning strategy because the new information and concepts are readily built into their existing and validated knowledge.

Read the local paper!

A relatively quick way to learn about what is "hot" in your community and region and to stay up-to-date on the issues is to read (or at least scan) a local paper. After following the news for a while, a fairly good sense for the crucial concerns, the mood in town, the important names will emerge.

Study region-specific reports, census data, and theses!

For a statistical overview of your city or region, census data are a reliable and easily accessible source. In addition, your department, your senior colleagues, and regional agencies, like the Chamber of Commerce, the local office of the Soil Conservation Service, etc. will have reports, theses, overviews and more specific publications that you might want to study. Most departments have at least one faculty member who is knowledgeable about local affairs. Have lunch together! Get a tour!

Chat with your neighbors, get a haircut, ...!

With the appropriate scepticism, you might want to partake or at least listen in on the chitchat across the fence among your neighbors. You may also ask specific questions of them; usually you can find out a lot this way about where you live. An excellent source on environmental, social, and political issues of the community or region are non-governmental organizations active in local affairs.

Team teach!

Consider team teaching this course and module. It is not only a great learning experience in terms of teaching and course design, it is also a good way to learn from your colleagues about the region and to exchange information efficiently. Usually, the course becomes more interdisciplinary and in any case more interesting because it confronts students with more perspectives on regional issues. The result is a richer course for both students and instructors.

Assessing Students' Performance

Students' performance in some of the activities of this module can clearly be assessed through traditional tests and exams while many others do not lend themselves easily to such evaluation. At the same time, you might find yourself confronted with state-wide prescripts on how to assess student achievements, e.g., in performance assessments. Consequently, no single evaluation key -- just another rule to go by -- is provided here. Instead, we describe a number of basic options below. You may choose the option your prefer most or combine several in one course, e.g., student self-evaluation and a scoring scheme or traditional tests and a portfolio.

Generally, assessment calls for an answer to two important questions:

- **"Performance according to whose standards?"**
-- by your standards, by the student's own standards, or by an external authority's standards; and
- **"Who is the assessment really for?"**

In the section immediately below, we can only begin to address these fundamental questions.

Goals of Education

The overall goal of education is to prepare young people to be active participants in society and the world beyond "school." This includes but is not restricted to competence in the work situation that they will encounter once they leave the classroom. According to the SCANS Report (Department of Labor 1991) the following competencies are necessary for the modern workplace:

- | | |
|---------------------|-------------------------|
| • creative learning | • learning how to learn |
| • decision making | • collaboration |
| • problem solving | • self-management |

These basic competencies underlie any individual skill students acquire. In Lori Shephard's words (1989), "Current models of learning based on cognitive psychology contend that learners gain understanding when they construct their own knowledge and develop their own cognitive maps of the interconnections among facts and concepts. ... Real learning cannot be spoon-fed one skill at a time."

Assessment and learning are interconnected. Assessment should mirror the learning process. There are many ways to assess what a student has learned from the activities you asked them to complete. You can use a scoring rubric, ask questions on a mid-term or final exam, ask students to assess their own learning, or put together a portfolio. The idea is to be creative, to match the assessment to the task/learning, to make students' "performing" their knowledge worth their while, and to be efficient with YOUR time.

Student Self-Assessment

Students can write answers to questions like the following to assess what they have learned:

- Describe the extent to which you understand the information about ... that we have covered. What are you confused about? What are you confident about?
- Describe how effective you have been so far in your task. Are you stuck? Do you feel you have finished the task? What do you need to be more effective?
- Describe how effective you have been in acquiring information for your project. What were the problems you encountered? How did you manage them?
- Describe how effective you have been in communicating your conclusions. Do you think they are interesting conclusions? Clear? Logical?
- Describe how well you have used the competencies of assessing the quality of data throughout the learning module. What causes problems still?
- Describe how well you have worked with your group throughout the project. What was the most difficult challenge for you? What do you feel you succeeded in doing well? What could you do better next time?
- If you think back to the beginning of this course/module -- what were the most significant things you learned from this? What was most surprising? What was worthwhile? What does what you learned mean to you personally?

Make sure students understand that they should focus on their own work, problems, and accomplishments rather than write a course or module evaluation. If you find students describing similar problems in their self-evaluations, however, you might have received useful feedback for yourself on what to emphasize more or go over again with the class.

Traditional Tests

Multiple choice, matching, fill-in the blank, and essay tests can be very effective, focused, and powerful ways to assess content. Make sure, however, that the test accurately reflects the nature of the learning in the module. Don't assess a "feeling" with a true/false question. Match the assessment to the content and skills emphasized in the module.

Scoring Rubrics

You can use a rubric to assess students' answers to an entire module. For example, have students hand in their activity sheets or module projects. Grade only five or six key components of the entire module using a scoring rubric:

Activity 1: map completed accurately (20 pts.)

Activity 2: graphs accurately show the relationship among wealth, well-being, and environmental degradation (21 pts., 7 pts. each)

and so on ...

The following ideas are adapted from Marzano, R.J., D. Pickering, and J. McTighe. 1994. *Assessing student outcomes*. Alexandria, VA: ASCD. To obtain a copy of this publication, call the Association for Supervision and Curriculum Development at (703) 549-9110 or fax them at (703) 549-3891.

The first rubric is a general rubric to assess how well students have learned **content**. You need to fill in the specific content as suggested in the first item. Adjust the points/grade according to the specific needs. Note the emphasis on performance (demonstrate, display). Active learning is best assessed by performance.

Grade/points	Description of achievement
A/100	Demonstrates a thorough understanding of the generalizations, concepts, and facts specific to the task or situation [e.g., how human driving forces affect global change] and provides new insights into some aspects of the information.
B/75	Displays a complete and accurate understanding of the generalizations, concepts, and facts specific to the task or situation.
C/50	Displays an incomplete understanding of the generalizations, concepts, and facts specific to the task or situation and has some notable misconceptions.
D/25	Demonstrates severe misconceptions about the generalizations, concepts, and facts specific to the task or situation.

The next general rubric is for assessing **skills/process**. Again, rewrite it to include the specific of the skill, e.g., construct and interpret histograms.

Grade	Description of achievement
A	Demonstrates mastery over the strategy or skill specific to the task or situation. Can perform the strategy or skill without error and with little or not conscious effort.
B	Carries out the strategy or skill specific to the task or situation without significant error.
C	Makes a number of errors when performing the strategy or skill specific to the task or situation but can complete a rough approximation of it.

- D Makes many critical errors when performing the strategy or skill specific to the task or situation.

Finally, here are some **goal statements** to help you develop your own rubrics.

Thinking

- Effectively translates issues and situations into meaningful tasks that have a clear purpose
- Effectively uses a variety of complex reasoning strategies
- Is aware of own thinking
- Makes effective plans
- Is aware of and makes use of necessary resources
- Is sensitive to feedback
- Evaluates the effectiveness of own actions
- Is accurate and seeks accuracy
- Is clear and seeks clarity
- Is open-minded
- Takes a position when the situation warrants it
- Is sensitive to the feelings and levels of knowledge of others
- Engages intensely in tasks when answers or solutions are not immediately apparent
- Pushes the limits of own knowledge and ability
- Generates new ways of viewing a situation outside the boundaries of standard conventions

Information Processing

- Effectively interprets and synthesizes information
- Effectively uses a variety of information gathering techniques and information resources
- Accurately assesses the value of information
- Recognizes where and how projects would benefit from more information

Communication

- Expresses ideas clearly
- Effectively communicates in a variety of ways (incl. oral reports, written reports, panel discussion, dramatic enactments, outlines, debates, flow diagrams/models, graphic representations such as maps, newscasts, discussions, audiotapes, slide shows, multimedia presentations, collages, collages, and other creative means)
- Effectively communicates with diverse audiences
- Effectively communicates for a variety of purposes
- Creates quality products

Creativity

- Effectively uses a variety of means and resources

- Provocatively employs information and other resources to make a point
- Produces original and imaginative pieces of work
- Goes beyond the minimal or standard ways of completing an assignment

Participation and Involvement

- Is present for every (or almost every) class session
- Demonstrates attentiveness and mental presence
- Asks questions that show interest, processing, thinking through and ahead of problems
- Makes insightful, stimulating and helpful comments in class
- Participates readily in pair or group work
- Asks for help and helps other students understand the material
- Brings interesting material to class
- Produces engaged work
- Demonstrates self-motivation in a variety of ways

Building a Portfolio⁵

Student assessment can be more than a grade that will go down in some soon-to-dust-over record. And it can be for others besides the instructor and the student: student assessment at best reflects where a student is at and what skills and experience s/he has. One person who wants to know exactly that kind of information is a future employer.

Building a portfolio means putting together -- in an clear and attractive way -- a student's completed projects, papers, drawings, maps, charts, posters etc. which reflect the range of skills (writing, various types of manual and computer-based analyses, critical reflection, presentation and so on), and the student's familiarity with particular problems, subject matters, and real-world questions. Such a portfolio has several positive aspects:

- it is a real "self-esteem booster" as the student literally sees her/his knowledge and abilities accumulate and as the student self-reflects on her/his skills, the problem-solving process, and the role s/he played in a task's completion;
- understanding that class projects have an important "after-life" once the class is over is an additional motivation for students to put more effort into each object that will enter the portfolio;
- as students get feedback from the instructor on their work, they can incorporate suggested changes **before** they put a piece into their portfolio, thus allowing the student's learning to continue after the assessment by the instructor, and making the instructor an interested

⁵ This idea comes from Sallie M. Ives (University of North Carolina, Charlotte), 1992 Nations Bank teaching award winner.

- partner in a student's success rather than an outsider or even a perceived adversary;
- a portfolio can continuously be built on -- over time, and from a variety of courses and extra-curricular activities;
- the feedback effect of a "public" portfolio to the instructor is that s/he will more likely gear the assignments toward real-world problems;
- a portfolio is much more informative, appealing, and "real" to a potential employer than an impersonal and sometimes outdated transcript of grades.

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